

**PRELIMINARY**

**Political Institutions and Local Public Goods<sup>\*</sup>**  
*Evidence from a Field Experiment in Indonesia*

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**ABSTRACT**

Decentralization throughout the developing world raises questions about how local political processes affect the provision of local public goods. To investigate this, I conducted a randomized field experiment in 48 Indonesian villages that were each in the process of applying for village infrastructure funds. Villages were randomly assigned one of two political mechanisms for choosing projects, either a representative meeting-based mechanism or a direct election-based mechanism. I find that the election-based mechanism resulted in dramatically higher satisfaction, increased knowledge about the project chosen, greater perceived benefits from the project, and higher reported willingness among villagers to contribute supplementary funds and labor to the project. The political mechanisms used had much smaller effects on the actual types and locations of project chosen, with some evidence that direct elections resulted in projects located in poorer, but less isolated, areas of villages. The results show that direct participation in political decision making can substantially increase legitimacy, even if it has relatively little effect on the ultimate decisions taken.

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## 1. Introduction

Recent years have witnessed a trend in the developing world towards increased decentralization and local participation in government decision making. The emphasis on these approaches has been supported both by academics (e.g., Sen 1999; Stiglitz 2002) and by the international development community (Mallaby 2004). In fact, increasing local participation in government in developing countries was the central theme of the World Bank's 2004 World Development Report (World Bank 2004).

Within 'participatory' local government in developing countries, however, lies a broad class of political processes, each of which may result in different decisions. For example, reservations for women and minority groups in village governments in India have been shown to affect the types and distribution of local public goods built in those villages (Pande 2003; Chattopadhyay and Duflo 2004), and the individuals assigned to facilitate village development meetings can lead the meetings in very different directions (Humphreys, Masters and Sandhu forthcoming). The increasing importance of these grass-roots political processes, as well as the threat of elite capture that looms over them (Bardhan 2002; Bardhan and Mookherjee 2006), suggests the importance of understanding the implications of different political mechanisms in practice.

To investigate these issues, I conducted a randomized field experiment in 48 Indonesian villages, all of which were preparing to apply for infrastructure projects as part of the Indonesian *Kecamatan* Development Program (KDP). Under KDP, each village follows a participatory political process that results in two proposed infrastructure proposals, one proposed by the village at large and one proposed exclusively by women in the village.

The experiment focused on the tension in designing political systems between processes that are more deliberative – i.e., that allow more in depth discussion of issues, such as meetings of representatives – and processes that are more participatory – i.e., that involve more people directly, such as plebiscites (Fishkin 1995). Each village was randomized into one of two different political processes through which they determined which projects to propose. In the baseline process, representatives of various areas of the village came together for two meetings – one open to all and one restricted to women – to discuss the merits of the various options and to decide on the village’s two project proposals. In a randomly-selected subset of 17 out of the 48 villages, however, two direct elections were substituted for this representative meeting. In the elections, villagers could vote directly on which of the potential projects they most preferred, with the project that received the plurality of votes becoming the village’s proposal. In one of the elections, all adults in the village were eligible to vote for the general proposal, and in the second election, all adult women in the village were eligible to vote on the women’s-specific proposal. The list of potential projects to be considered by the meeting process or by the direct election process was generated using an identical agenda-setting process in both treatment conditions.

The fact that villages were randomly allocated into one of these political processes allows me to evaluate the causal impact of the direct election-based process relative to the meeting-based process by comparing outcomes across the two experimental conditions. In so doing, I build on a small-but-growing number of randomized field experiments in political science (e.g., Eldersveld 1956; Gerber and Green 2000; Wantchekon 2003; Druckman et al. 2006). To the best of my knowledge, however, the experiment reported here represents the first time the political process itself has been randomly assigned across polities.

Using this methodology, I find that the direct election-based process had relatively little effect on the ultimate decisions, but had substantial positive effects on a wide variety of measures of citizen satisfaction with the political process. With regard to the decisions taken, the impact of the election treatment on the type and location of selected projects is concentrated on the women's proposal. In particular, the direct election process resulted in women's projects that were located in poorer areas of the village, which seems to suggest that the direct election shifted power towards poorer women who may have been disenfranchised in a more potentially elite-dominated meeting process. At the same time, however, the types of projects chosen by the women's project are closer to the stated preferences of the village elites. One potential explanation for this finding is that the election process did not affect how each area of the village selected its proposals, and elites were more dominant in the agenda-setting process in poorer areas of the village. The results on the general project showed no clear changes in the type of project selected.

By contrast, the election-based process was substantially preferred by citizens across a wide variety of measures. For example, direct elections substantially increased villagers' overall satisfaction with the KDP project. They also improved villagers' perceptions of the fairness and legitimacy of the selected project, and dramatically improved their stated satisfaction with the project selected. This was true even for the general project, where the type of project selected did not change at all, which suggests that these results are driven by increased legitimacy of the political process through which projects were selected, rather than the political process resulting in better projects being chosen. These effects are large, statistically significant, and seem to occur no matter how the questions were phrased. Villagers also indicate that they are substantially more likely to contribute voluntary labor or materials to KDP projects in villages

where direct elections were held. The striking results on citizen satisfaction and legitimacy results confirm the view of some democratic theorists that broad participation in the political process can be a legitimizing force, even if the ultimate decisions taken do not change (Fishkin 1991; Benhabib 1996; Ackerman and Fishkin 2004).

The remainder of the paper is organized as follows. Section 2 provides basic information on the KDP program and outlines the experimental design. Section 3 presents the results, offering quantitative evidence about the impact of various forms of collective decision-making on such outcomes as selected project type (roads, irrigation, education programs, etc), project location and utilization, legitimacy and support for the program, and public and private discussion of development issues. Section 4 concludes.

## **2. Setting, Experimental Design, and Data**

### *2.1. The KDP Program*

The Kecamatan (Subdistrict) Development Project, or KDP, is a national Indonesian government program, funded through a loan from the World Bank. KDP began in 1998, and currently finances projects in approximately 15,000 villages throughout Indonesia each year.

In KDP, participating subdistricts, which typically contain between 10 and 20 villages, receive an annual block grant for three consecutive years. Every year, each village in the subdistrict makes two proposals for small-scale infrastructure activities. The village as a whole proposes one of the projects (which I refer to as the ‘general project’); women’s groups in the village propose the second (which I refer to as the ‘women’s project’). An inter-village forum, consisting of six representatives from each village, ranks all of the proposals according to a number of criteria, such as number of beneficiaries and project cost, and projects are funded

according to the rank list until all funds have been exhausted; typically, about 50-75% of villages have at least one project funded each year.<sup>1</sup>

This study focuses on the process by which the village selects its two proposals. The baseline process in KDP works as follows. All Indonesian villages are comprised of between 2 and 7 *dusun*, or hamlets. For a period of several months, a village facilitator organizes small meetings at the hamlet level; for large hamlets multiple meetings might be held in different neighborhoods within each hamlet. These meetings aim to create a list of ideas for what projects the village should propose. These ideas are then divided into two groups – those that originated from women’s only meetings and those suggested by mixed meetings or men’s meetings. The village facilitator presents the women’s list to a women-only village meeting and the men’s and joint ideas to a village meeting open to both genders. While these meetings are open to the public, those that attend represent a highly selected sample, just as in Mansbridge’s (1983) study of Vermont town meetings. In particular, government officials, neighborhood heads, and those selected to represent village groups compose the majority of attendees. A typical meeting would have between 9-15 people representing the various hamlets, as well as various formal and informal village leaders, with on average about 48 people attending in total out of an average village population of 2,200. The groups discuss the proposals, with substantial help from an external facilitator (as in Humphreys, Masters and Sandbu forthcoming), deciding ultimately on a single proposal from each meeting.

## 2.2. *Experimental Design*

The results reported here come from field work conducted between September 2005 and January 2006. The key intervention studied here is a change in the decision making mechanism:

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<sup>1</sup> At the inter-village forum, the general project proposals and the women’s project proposals are officially treated equally.

instead of following the meeting-based process described above, some villages were randomized to choose their projects via a direct election. The idea behind the direct election was that it would move the political process from a deliberative, but potentially elite-dominated process to a less deliberative, but vastly more participatory process that might be less subject to elite capture.

The method for selecting the list of projects to be chosen (i.e., the agenda setting procedure) was the same in both cases – the list of projects to be decided on at the meeting or the list of projects on the ballot was determined from the results of hamlet level meetings, where each hamlet was allowed to nominate one general project and one women’s project.<sup>2</sup>

The direct election was conducted as follows. Two paper ballots were prepared – one for the general project and one for the women’s project. The ballots had a picture of each project along with a description of the project (see Figure 1 for an example). Village officials distributed voting cards to all adults in the village who had been eligible to vote in national parliamentary elections held approximately six months previously. The voting cards also indicated the date of the election and the voting place. Voting places were set up in each hamlet (*dusun*) in the village.<sup>3</sup> When arriving at the voting place to vote, men received one ballot (for the general project) and women received two ballots (one for the general project, one for the women’s project). The selected project (for both the general and women’s project) was the proposal that received a plurality of the votes in the respective election. On average, turnout at these village

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<sup>2</sup> Note that in East Java and Southeast Sulawesi, the set of projects to be decided amongst – i.e., the agenda – was already fixed at the time the randomization was announced. In North Sumatra, however, the agenda was selected after the randomization was announced, so it is potentially endogenous with respect to the randomization. Appendix A shows that the results are consistent among the two subsamples, suggesting that the results are not substantially affected by the potentially endogenous agenda setting in the North Sumatra villages.

<sup>3</sup> If two hamlets were less than 15 minutes walk from one another, we combined them into one voting precinct with a single voting station. In our sample, six hamlets – located in four villages – used voting stations in a nearby hamlet. To ensure that this is not biasing results, I run two robustness checks. First I limit the sample to villages where all hamlets had ballot boxes, and then I restricted it to hamlets where ballot boxes were located. Results (not shown) remain virtually unchanged.

elections averaged 807 people, or over 60% of all eligible voters in the village.<sup>4</sup> This means that roughly 20 times as many villagers participated in the direct elections as attended the village meetings in non-election villages.

The experiment was conducted in two phases. First, phase I was conducted in ten villages in East Java Province and 18 villages in North Sumatra Province. Based on qualitative reports from phase I areas, the experimental protocol was changed slightly, and then run again in phase II in an additional 18 villages in Southeast Sulawesi Province. The key intervention studied here – the direct election – was run identically in both phases of the study; the modifications between the two phases concern how the control group, the meeting-based decision processes, was run. Details of these modifications, and robustness checks to ensure that they are not driving the results, can be found in Appendix A.

The randomization design is shown in Table 1.<sup>5</sup> In phase I of the project, 25% of villages were allocated to the election treatment, whereas in phase II of the project, 45% of villages were allocated to the election treatment. Given these different probabilities, in all specifications I include phase fixed effects, to capture the fact that the treatment probability differed by phase.

A natural question is the degree to which the randomization resulted in a balanced set of villages in the two treatment conditions. To investigate this, I estimate the following Probit specification:

$$\Pr(ELECTION_v) = \Phi(\alpha_{phase} + X'_v\beta) \quad (1)$$

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<sup>4</sup> As I do not have data on the number eligible voters, I estimate the number of turnout by taking the total village population and multiplying by 0.667, which is the average ratio of adult population to total population in similar areas of Indonesia (author's calculations).

<sup>5</sup> In Southeast Sulawesi, the treatment assigned to three villages was changed after the randomization was determined. To maintain the exogeneity of the random assignment, in all analysis in this paper I use the results of the original randomization, rather than the final treatment status, in conducting the analysis. The analysis should therefore be interpreted as intent-to-treat effects (Angrist, Imbens and Rubin 1996); treatment-on-treated effects would be slightly larger than the results reported here.

where  $v$  is a village and *phase* refers to whether the villages was in phase I or phase II of the project. The results are shown in Table 2. The vector  $X$  includes village population, the average village agricultural wage, percent of village roads that are asphalt, hamlets per village, total churches and mosques per village, distance to the subdistrict capital, and the age and educational attainment of the village head. A test for joint significance gives a p-value of 0.28, indicating that the assignment of treatments was, in fact, orthogonal with respect to observable village characteristics.

### 2.3. *Data*

The analysis here uses three data sources. First, a household survey was conducted, in which five households were randomly sampled in each village. This household survey was conducted in two waves, one at the inception of the study and one after the project selection process was concluded.<sup>6</sup> The household survey contains information on a standard set of household characteristics, such as assets (used to predict expenditure). Respondents ranked potential projects in order from most to least preferred. Respondents in the second wave of the survey also responded to a number of questions about their perceptions of and satisfaction with the KDP project in their village.

Second, a survey was conducted in which we asked the village head, and the head of every hamlet, a number of background questions about the condition of the village. We also elicited their preferences about types of projects, which we refer to in the analysis as ‘elite’

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<sup>6</sup> Due to time pressures at the beginning of the project, the first wave of the household survey was contemporaneous to the announcement of the randomization in East Java and Southeast Sulawesi. We therefore focus on results using the second wave of the household survey.

preferences.<sup>7</sup> Third, we collected detailed data (type and location) about the list of projects on the agenda, and about the projects actually selected.

### 3. Results

This section discusses the main findings. Section 3.1 presents results on the impact of the project on the types and location of projects selected. Section 3.2 outlines the effect of elections on subjective measures of satisfaction, fairness, and legitimacy. Section 3.3 discusses the impact of the program on the village deliberative process and citizen knowledge about the outcomes of the political process.

#### 3.1. *Impacts on project selection*

##### 3.1.1. *Project types*

Projects have two main attributes: project *type* – i.e., is the project a road, bridge, irrigation system, etc. – and project *location*, i.e., in which areas of the village the project is located.

To begin, Table 3 presents summary statistics about types of projects. The first two columns show the breakdown of project types that were actually selected by the program, for both the general proposal (column 1) and the women’s proposal (column 2). The general project is much more likely to be a road or bridge (64% for general project compared to 35% for women’s project), whereas the women’s project is much more likely to be a drinking water supply system (27% vs. 8%).

The remaining columns of Table 3 show respondents’ most preferred project type, broken down by various demographic characteristics, according to the responses from the first wave of the household survey. Columns (3) and (4) break down preferences by gender. Note that the

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<sup>7</sup> The time pattern of these surveys was identical to that of the first round of the household survey – i.e., before randomization was announced in North Sumatra, and contemporaneous with randomization in East Java and Southeast Sulawesi.

differential preferences by gender match almost exactly the differences in the actual project selections – men are more likely to prefer roads or bridges (64% for men vs. 38% for women), and women are more likely to prefer drinking water projects than men (23% to 3%). This provides suggestive evidence that, in equilibrium, the project selected by the women’s process reflects the opinions of women in the village, whereas the general project reflects the preferences of men in the village.<sup>8</sup>

The next four columns, which split households by per-capita expenditure quartile (where quartiles are constructed separately for each province), show that richer households are also more likely to prefer roads, whereas poorer ones tend to prefer irrigation projects, which may reflect the fact that they are more likely to be in agriculture than involved in trading or services. Finally, the final two columns show that landowners prefer irrigation projects more often than landless individuals.

The first question about the impact of the elections is their impact on the types of projects selected. Figure 2 shows, for both the general project and the women’s project, the composition of selected projects broken down by whether the village was an election village or a meeting village. As is evident from Figure 2, there were no changes whatsoever in the types of projects selected as the ‘general project’ across the two different treatment conditions. For the ‘women’s project,’ some differences emerge – the projects chosen by direct election were slightly more likely to be roads and bridges (i.e., moving away from women’s stated preferences as shown in Table 3) and water/sanitation systems (i.e., towards women’s stated preferences as shown in Table 3), and substantially less likely to be irrigation projects.

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<sup>8</sup> Note that this does not necessarily imply that women’s preferences would not be represented without the special project reserved for women, as it is possible that the separate reservation for women turns the general project into the ‘men’s project,’ a phrase we heard frequently in qualitative work in project villages. However, the experimental evidence from India suggests that reservations for women can cause projects selected to more closely resemble women’s preferences, at least in the setting studied there (Chattopadhyay and Duflo 2004).

To estimate the statistical significance of the changes shown in Figure 2, I estimate a conditional logit model via maximum likelihood (following McFadden 1974). Adapting the standard conditional logit notation, denote by  $P_v$  the number of project types (i.e., road, irrigation, etc.) in village  $v$  and  $T_v$  the total number of types selected in that village (which will almost always be equal to 1). Denote  $d_{vp}$  to be a dummy variable equal to 1 or 0, and denote by  $S_v$  the set of all possible vectors  $\mathbf{d}_v = \{d_{v1}, \dots, d_{vP_v}\}$  such that  $\sum_{p=1}^{P_v} d_{vp} = T_v$ . I then estimate the following model:

$$\Pr(\mathbf{CHOSEN}_v / \sum_{p=1}^{P_v} \mathbf{CHOSEN}_{vp} = T_v) = \frac{\exp \left[ \sum_{p=1}^{P_v} \mathbf{CHOSEN}_{vp} (\alpha_{p \times phase} + \beta_j \mathbf{ELECTION}_v \times \gamma_p) \right]}{\sum_{\mathbf{d}_v \in S_v} \exp \left[ \sum_{p=1}^{P_v} d_{vp} (\alpha_{p \times phase} + \beta_j \mathbf{ELECTION}_v \times \gamma_p) \right]} \quad (2)$$

where  $\mathbf{CHOSEN}_{vp}$  is a dummy variable equal to 1 if project type  $p$  was chosen in village  $v$  and 0 if not, and  $\mathbf{CHOSEN}_v$  indicates the vector of projects chosen in village  $v$ .  $\mathbf{ELECTION}$  equals 1 if the village chose its project proposal via a direct election and 0 otherwise. I group the 8 project types into four major categories – roads/bridges, irrigation, water/sanitation, and other – to preserve statistical power. The omitted category in the regression is ‘other,’ which consists of educational and health projects. Robust standard errors are adjusted for clustering at the village level. The key coefficients of interest are the interactions of the project types  $\times$  election (i.e., the  $\beta_j$ ’s), which indicates the differential likelihood a particular type of project is chosen in election-based villages relative to meeting-based villages.

The results from estimating equation (2) are presented in Table 4. The first 3 columns show the results when all options are considered; the last 3 columns restrict the sample to the

subset of types that were actually available as agenda items in that village. (The second specification has more power, but I present both given that it is theoretically possible that there was the potential for endogeneity in available project types in North Sumatra villages, given the timing of the experiment.) The coefficients are interpretable as log odds ratios. The results confirm the picture shown in the Figure 2. For the general project, the point estimates are generally small, and highly statistically insignificant – a joint F-test has a p-value of 0.79 or 0.87, depending on the specification. For the women’s project, the point estimates indicate substantial increases in the probability of choosing either roads / bridges and water / sanitation projects, though given the small sample sizes these shifts are not statistically significant (p-values from a joint F-test of 0.55 and 0.18, depending on specification).

While the overall preferences for different types of projects reported in Table 3 give some indication of which project types were preferred by which types of people, I can estimate more directly whether the project resulted in chosen projects that were more or less preferred by different subsets of villagers. Recall that in the first household survey, respondents were asked to rank each of the eight potential project types from most preferred (1) to least preferred (8). I can therefore estimate the following conditional fixed-effects logit regression:

$$\Pr(\mathbf{CHOSEN}_{vh} / \sum_{p=1}^{P_v} \mathbf{CHOSEN}_{vhp} = T_v) = \frac{\exp \left[ \sum_{p=1}^{P_v} \mathbf{CHOSEN}_{vhp} \left( \begin{array}{l} \alpha_p + \gamma_{1phase} \mathbf{RANK}_{vhp} + \gamma_2 \mathbf{RANK}_{vhp} \times X_{vi} \\ + \beta_1 \mathbf{ELECTION}_v \times \mathbf{RANK}_{vhp} \\ + \beta_2 \mathbf{ELECTION}_v \times \mathbf{RANK}_{vhp} \times X_{vi} \end{array} \right) \right]}{\sum_{\mathbf{d}_{vh} \in S_v} \exp \left[ \sum_{p=1}^{P_v} d_{vhp} \left( \begin{array}{l} \alpha_p + \gamma_{1phase} \mathbf{RANK}_{vhp} + \gamma_2 \mathbf{RANK}_{vhp} \times X_{vi} \\ + \beta_1 \mathbf{ELECTION}_v \times \mathbf{RANK}_{vhp} \\ + \beta_2 \mathbf{ELECTION}_v \times \mathbf{RANK}_{vhp} \times X_{vi} \end{array} \right) \right]} \quad (3)$$

where  $v$  is a village,  $p$  is a project type, and  $h$  is the respondent. Note that the coefficient  $\gamma_1$  is allowed to vary by project phase, to take into account the fact that the probability of *ELECTION* differed between phase 1 and phase 2 villages.  $CHOSEN_{vhp}$  equals 1 if the project type  $p$  was chosen by respondent  $h$ 's village  $v$  and 0 if it was not.  $RANK_{vhp}$  is respondent  $h$ 's rank of project  $p$  in village  $v$ , where the top-project is ranked 1, the second project is ranked 2, etc. Robust standard errors are clustered by village, to take into account the fact that there are multiple respondents in each village.

The key coefficients of interest are the interactions of *ELECTION* and *RANK* (i.e.,  $\beta_1$ ), and the triple interactions of *ELECTION*, *RANK*, and individual characteristics  $X$  (i.e.,  $\beta_2$ ). A negative coefficient on the triple interaction indicates that the election made projects preferred by individuals with the respective characteristic  $X$  more likely to be chosen.

The results are shown in Table 5. The first column shows the overall impact of elections on the probability that low-ranked (i.e., preferred) project types are likely to be chosen; the second column focuses on whether projects preferred by elites are more likely to be chosen when elections are utilized, and the third column investigates a host of individual characteristics.<sup>9</sup> For the general project, I find no effects, which is not surprising given the results above that show that there was almost no impact of the election on the types of projects chosen as the general project. For the women's project, the negative coefficient on  $ELITE \times RANK \times ELECTION$  in column (8) indicates that the direct elections make the project chosen by the women's process look more like the preferences of the village elite and less like the preferences of ordinary villagers, although the coefficient is of only borderline statistical significance ( $p = 0.096$ ).

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<sup>9</sup> Columns (2) and (3) are estimated separately, since the detailed  $X$  characteristics shown in column (3) are not available for the elite sample.

Similarly, the negative coefficient on the triple interaction of HH per-capita expenditure, RANK, and ELECTION indicates that the relatively affluent are more likely to have their highly ranked projects selected as the women's proposal when direct elections are utilized than when meetings are used. These results are likely driven by the fact that roads are more likely to be chosen as the women's project in the election treatment, and roads are preferred by the elites, by men, and by the wealthy.

### *3.1.2. Project Location*

In practice, anecdotal evidence suggests that the key political question to be determined in the KDP process is not the type of project, but rather where the project should be located. Each area of the village may have their own preferred project type, but virtually everyone in the village I interviewed reported that they would strongly prefer a suboptimal project type in their own hamlet to their most preferred project type located somewhere else in the village where they would not be able to use it.

Under the assumption that everyone's most preferred project is a project in their own hamlet, moving from a meeting-based system to an election-based system has several clear predictions. First, the representative meeting process allocates equal numbers of votes in the meeting to each hamlet, whereas in the direct election, the number of votes likely depends on population (assuming a uniform participation rate in elections). This suggests that one would expect the direct election to favor hamlets with large populations.

Second, the meeting is typically held in the village town hall. Although votes are allocated in meetings equally to each hamlet, the meeting's location in the village town hall means that the number of attendees at the meeting is typically skewed in favor of hamlets located close to the village town hall. To the extent that these people can influence the meeting even

though they cannot vote (for example, by dominating the conversation), one would expect that the direction elections would favor more outlying hamlets, given that polling stations were located in each hamlet.

The predictions on whether the election should locate projects in poorer areas are less clear. To the extent that the number of attendees at meetings determines who attends meetings, one might expect the poor to be less likely to attend meetings. Since the cost of voting in an election is much lower than the cost of attending a meeting (10 minutes vs. 3 hours), it is plausible that the poor might be relatively more likely to vote than to attend meetings.<sup>10</sup> One potentially relevant factor is that in meetings there was often substantial inter-temporal trading, in which representatives from some hamlets would support projects from other hamlets one year, in return for promises that their hamlet would be supported in subsequent years. With the election-based process, creating these types of intertemporal coalitions is much more difficult.<sup>11</sup> However, it is not clear ex-ante whether such a process would favor poorer or wealthier villages.

To examine these questions, I first plot the probability distribution of the selected project according to various village characteristics. As can be seen in Figure 3, elections did not change the probability that the general project would be located in a poor relative to a wealthy hamlet, but they did increase the likelihood that selected women's projects would be constructed in relatively impoverished hamlets. (Hamlets were ranked in terms of their poverty by the village head before the project began.) Thus, while elections may have led selected project *types* for the

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<sup>10</sup> Technically this relationship is ambiguous, since the poor have lower incomes (and thus a higher utility of money, and more of a need to work) but also lower wages (and therefore a lower opportunity cost of time), and it is not clear theoretically which effect dominates. Jayachandran (2006) finds evidence that income effects are particularly important in the context of poor, rural villagers in developing countries.

<sup>11</sup> Though not impossible. Fieldwork in East Java revealed one village in the direct election treatment where the village head facilitated exactly such an intertemporal deal, convincing villagers in one hamlet to vote for another hamlet's project in exchange for getting a project the subsequent year.

women’s proposal to move closer to the preferences of the elite, they simultaneously increased the likelihood that selected projects would be *located* in poorer areas of the village.

Elections affect locations of projects in other ways as well. Figure 4 shows that, contrary to the predictions outlined above, direct elections also resulted in projects being more likely to be located in *less populous* hamlets, rather than more populous hamlets. This is particularly true for the general project. This goes directly against the hypothesis that the election should help more populous areas. One possibility, suggested by the experience of several villages in fieldwork, was that in a situation where there are more than two hamlets, no hamlet has an outright majority. Large hamlets may be tempted to go it alone, hoping to win with a plurality, whereas small hamlets may better foresee the need to form coalitions in order to win.

Finally, as shown in Figure 5, direct elections decreased the probability that projects selected by both the general and women’s proposals would be constructed in isolated hamlets – i.e., those hamlets that are located furthest from the center of the village (I group hamlets into quartiles according to their distance from the center of the village). This is also surprising, given that outlying hamlets tend to be have fewer supporters at village meetings, but should have had an easier time voting in the election, since the election was held in each hamlet.

To investigate the impact on project location more systematically (and, in particular, to control for these various factors simultaneously), I estimate conditional logit specifications of the form:

$$\Pr(\mathbf{CHOSEN}_v / \sum_{d=1}^{D_v} \mathbf{CHOSEN}_{vd} = T_v) = \frac{\exp \left[ \sum_{d=1}^{D_v} \mathbf{CHOSEN}_{vd} (\gamma_{phase} X_{vd} + \beta \mathbf{ELECTION}_v \times X_{vd}) \right]}{\sum_{\mathbf{d}_{vd} \in S_v} \exp \left[ \sum_{d=1}^{D_v} d_{vd} (\gamma_{phase} X_{vd} + \beta \mathbf{ELECTION}_v \times X_{vd}) \right]} \quad (4)$$

where  $v$  is a village and  $d$  is a hamlet (*dusun*). Once again the coefficients  $\gamma$  are allowed to vary by project phase.  $CHOSEN_{vd}$  equals 1 if the hamlet was chosen for project construction and 0 if not.  $X$  indicates a group of hamlet characteristics. The coefficients of interest are  $\beta$ , which represent the differential likelihood of a hamlet of type  $X$  receiving the project in election areas vs. non-election areas. Robust standard errors are clustered by village.

The results are presented in Table 6. These results confirm the qualitative patterns shown in the Figures. For the women's project, the results indicate that the direct elections resulted in projects that were more likely to be located in poorer hamlets (the same is also true for the general project, though the results are not statistically significant). Particularly for the general project, the election also resulted in projects that were located in less populous, but more centrally located, hamlets.<sup>12</sup>

Overall, the data suggests that the main effect of direct elections was limited to the women's project. For this project, the direct elections resulted in projects located in poorer hamlets, but also in projects that looked closer to preferences of the village elites. One way of reconciling these two results is to recall that the election process did not affect the agenda setting within these hamlets. It is possible that in poorer hamlets, poor women were less involved in the agenda setting stage, so the women's projects proposed in these hamlets were more elite dominated. When time came to vote, however, the newly enfranchised poorer women may have preferred to vote for sub-optimal project type located in their area than in an optimal project type located too far away to be useful. This suggests that while the election process is successful to some degree at enfranchising poorer women in the final decision making process, fully

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<sup>12</sup> As an aside, the overall coefficient (as opposed to the interaction) on hamlet poverty shows that, at least based on the village head's ranking of which hamlets are richest and which are poorest, poorer hamlets are more likely to subsequently receive the general project, both with and without the direct elections. This pattern can also be seen in Figure 3.

enfranchising poorer women would require increasing their participation at the agenda-setting stage as well.

### 3.2. *Project Satisfaction and Planned Utilization*

#### 3.2.1. *Satisfaction and legitimacy*

The previous analysis has shown that direct elections had little impact on the types of projects chosen, and if anything, served to move selected projects towards the types of projects chosen by village elite. They also resulted in general projects being located in less populous areas of the village. One might expect, given these results, that the direct election process would not have been particularly popular in the villages.

However, the opposite is true. Figure 6 show the responses, from the second round of the household survey, of people's perceptions about the KDP decision-making process in their village. Table 7 presents analogous regression results, where each cell in Table 7 is the marginal effect of the coefficient  $\beta$  from the following Probit specification:

$$\Pr(OUTCOME_{vh}) = \Phi(\alpha_{phase} + \beta ELECTION_v + X'_{vh}\gamma) \quad (5)$$

For all outcomes, where more 'positive' answers have been consistently coded as 1 and more 'negative' answers have been coded as 0. I cluster standard errors by village to take into account that there are multiple respondents  $h$  in each village  $v$ . The vector  $X$  represents a set of respondent control variables (gender, age, log per-capita expenditure, number of household members, and occupation dummies).

As can be seen in the Figure and the Table, the direct election process received more support from villages across a wide variety of measures. First, the direct elections resulted in a substantially higher fraction of people who said that the project chosen was in accordance with their wishes (21 percentage points higher), who felt they will benefit personally from the selected project (18 percentage points higher), and who said they will use the selected project (8

percentage points higher). Remarkably, these effects are particularly strong for the general project, where the project type did not change at all.

Second, elections increase the degree to which villagers perceive KDP projects to be fair and legitimate. The estimates in Table 7 reveal that under direct elections the probability that a respondent felt that the selected proposal was fair increased by 5 percentage points. The probability that the project was chosen in accordance with the ‘people’s aspiration’ (*aspirasi masyarakat*), a broad measure of legitimacy, increased by 3 percentage points. Finally, the direct elections increase overall satisfaction with the KDP program by 13 percentage points.

Given the relatively small effects on the type of project chosen, particularly for the general project, a reasonable conjecture is that these gains represent changes in the way that the outcome was perceived, rather than a true change in the way that the outcome was valued. In particular, the results in Table 5 show that the direct election did not change the probability that types of projects that were ranked higher by respondents were chosen, and the results in Table 6 showed that for the general project, the treatments resulted in projects in centrally located, but less populous hamlets – not necessarily changes that one would have thought ex-ante would have led to dramatically larger improvements in satisfaction. This suggests that direct elections increase involvement in and legitimacy of the election process, resulting in citizens viewing the decisions more positively.

An interesting question is whether this increased stated support would translate into increased material support for the project. Although the study did not cover the actual construction phase, the second round of the household survey asked respondents about their

plans for making voluntary contributions to the project.<sup>13</sup> Again estimating equation (5), Table 8 shows that direct elections substantially increased villagers' intentions to contribute to KDP project construction. Specifically, direct elections raised the probability that individuals stated that would contribute something (i.e. labor, money, food) to project construction by 18 percentage points. The majority of this is driven by planned labor contributions, which increase by 16 percentage points.<sup>14</sup> Perhaps surprisingly, the election slightly decreased the probability that respondents would contribute money (7% of respondents planned to contribute money when meetings were used, versus only 5% when elections were used.) Nevertheless, to the extent these stated intentions were subsequently manifested in actual contributions, they would represent a substantial impact of the direct elections.

### *3.3 Knowledge and Deliberations*

One of the fundamental ideas of deliberative democratic theory is that active discussions of issues among citizens are important both to increase legitimacy and to help citizens discover the socially optimal outcome (Fishkin 1991; Ackerman and Fishkin 2004). This can be done in public forums, but can also be done in a variety of private settings or informal discussions outside the formal political process (Benhabib 1996). An important question is therefore how different political institutions affect the total level of deliberation in the polity. One might expect, in a direct-election process that involved orders of magnitude more people, that than ordinary citizen's deliberations would increase in preparation for the direct election. But did this happen?

To investigate this, I use data from the second-round household survey in which households were asked about the degree to which they had discussed village development issues

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<sup>13</sup> Note that given the design of KDP, this question could not have been answered using actual contribution data even if the study had included the construction phase, since which proposals were actually funded by the inter-village council, and thus for which projects we would observe actual contributions, is endogenous.

<sup>14</sup> Note that 70% of those surveyed planned to contribute labor when meetings were utilized, whereas 84% did when elections were utilized. This 14 percentage point increase is slightly different from the 16 percentage point estimate in the Table because the estimate in the Table includes phase fixed effects.

in the period before the survey. Table 9 reveals that direct elections do not impact private and public dialogue about development issues, at least not in the short timeframe within which this study was conducted. Specifically, I detect no statistically significant difference in the probability that a respondent discussed ‘development issues in the village’ in the last three months with anyone, with household members, or with members of the village government. One possibility, however, is that the increase in dialogue is on the intensive margin, rather than the extensive margin, in which case it would not be detected by these questions. This is certainly possible given that, as shown in Figure 7, the baseline levels of these discussions were quite high to begin with.<sup>15</sup> Nevertheless, it is remarkable that the dramatic increases in participation associated with the direct elections treatment did not result in detectable additional discussions among citizens.

A second important measure of civic engagement is the degree to which individuals are knowledgeable about the outcome of the political process. To investigate this, Wave 2 of the household survey also asked respondents to name the type and location of selected KDP proposals in their villages. Table 9 shows, again by estimating equation (5), that direct elections substantially increase knowledge about KDP projects. When direct elections are utilized, respondents are 22 percentage points more likely to correctly identify the type and location of the selected general proposal and 29 percentage points more likely to do so for the women’s proposal. This impact can be seen graphically in Figure 7. Thus, although there was little detectable increase in whether citizens had any discussions about village development, direct elections were certainly much more aware of the outcomes of the political process in the direct election treatment.

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<sup>15</sup> Note that Figure 7 splits the graphs by Phase I and Phase II villages, as the mean levels in control villages differ across Phases.

In sum, the results of the experiment confirm the idea advanced by some deliberative democratic theorists (e.g., Fishkin 1995) that the degree of participation in the political process can be a legitimizing force, even if it does not necessarily affect the outcome. Just as the results of a state-wide referendum may be taken more seriously than the results of a randomly-sampled poll of a few hundred citizens – even if both produce the same results – citizens in Indonesian villages were much more satisfied with a highly participative political process even in cases, such as the general proposal, where the outcomes were no different than they would have been otherwise.

#### **4. Conclusion**

This project investigated two alternate mechanisms through which villagers could choose how to spend money for infrastructure projects in their village: a representative meeting-based process, and a direct election based process. Each village selected two projects, a general project, chosen by all villagers, and a women's project, chosen exclusively by the women in the village. These two mechanisms affected only the final choice of which would be selected – the process of setting the agenda, in which each hamlet in the village nominated one general project and one women's project through a series of hamlet-level meetings, was unchanged across the experimental treatments.

The experiment found that the direct election process resulted in substantially higher villager satisfaction with the political process, even though it had only modest impacts on the actual projects selected. In particular, the election process resulted in higher reported satisfaction with the program, greater perceived fairness and legitimacy, and higher approval rates for the project chosen. The probability that a villager said that they would be likely to contribute labor to the project was also substantially higher in election villages than in non-election villages. These

results also hold for the general project, where there was relatively little change in the project selected. This suggests that villagers approved of the election *process*, not just the outcomes chosen by that process.

The one area where the direct election process substantially changed outcomes was for the women's project, where it resulted in women's projects that were more likely to be located in poorer hamlets. Given that the process did not affect the agenda setting within these hamlets, and that there may have been more elite dominance of this process in poorer hamlets, the types of projects chosen by women actually more closely resembled elite preferences in the election treatment, even though they were located in poorer areas. This suggests that while direct referenda may be more successful at enfranchising poorer women in the final stage of decision making than the representative meeting process, fully enfranchising these women would require increasing their role at the agenda-setting stage as well. For the general project, there was no impact on whatsoever on the type of project chosen, and less clear impacts on the location of projects chosen.

An important caveat is that this study was conducted in only 48 villages. Therefore, while the results that show large, statistically significant impacts on satisfaction and legitimacy are clearly valid, some caution must be used in interpreting the relative lack of an impact on project type and project location for the general project, as there might have been small effects that would only have been detectable in a larger study. Nevertheless, if such effects existed, they were of much smaller order of magnitude than the effects of the election on citizen perceptions of fairness, legitimacy, and satisfaction with the project, which are large enough to be detected even in this relatively small sample size.

Although the experiment was conducted at the village level, the results speak to the broader debate about participatory vs. deliberative approaches to democracy more generally. In particular, the dramatically higher levels of citizen satisfaction with the direct election treatment, in which citizens could vote directly on which proposal they wish to have, may help explain the growth of citizen referenda and initiative petition systems, despite the many issues associated with such systems (Matsusaka 2005a; Matsusaka 2005b). The striking results on citizen satisfaction and legitimacy results confirm the view that broad participation in the political process can be a legitimizing force, even if the ultimate decisions taken do not change.

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## **Appendix A**

As discussed in the text, in addition to the main direct election / meeting-based system discussed at length in the paper, several additional experimental sub-treatments were run in both Phase I and Phase II of the experiment. This Appendix discusses briefly these additional sub-treatments and robustness exercises that show that these sub-treatments are not driving the main results discussed in the paper.

In Phase I of the experiment, there were three sub-versions of the meetings treatment: open meetings, in which all villagers who attended meetings were eligible to vote, representative meetings, in which each hamlet (in North Sumatra) or neighborhood (in East Java) elected a representative to each meeting, and limited representative meetings, in which each hamlet (in North Sumatra) or neighborhood (in East Java) elected a representative and in which the representatives (or immediate family members) were not allowed to have had any previous government experience. The idea of these additional sub-randomizations was to investigate how different attendees at the meetings affected the results of the meetings.

In addition, meetings were randomized into a) using either a single round plurality voting system (as in the elections) or a multiple round voting system where votes would continue until a single project received a majority of votes and b) using either public or private ballots.

In Phase II of the experiment, different sub-treatments were run in the meeting treatment: a) to investigate commitment issues, the meeting villages were randomized into deciding whether to plan for 1 or 2 year's worth of projects and b) participants held 15-minute discussions in which they were grouped either within-hamlet or across-hamlets.

For the main results of the paper, I group all of these results into the category 'meetings.' However, I have repeated the main results of the paper dropping each of these sub-varieties of meetings one-by-one, and the main qualitative results of the paper (in particular, on location of project and satisfaction with project) are robust to dropping each of these sub-treatments. This ensures that the results reported here really are being driven by the elections treatment, rather than one of the sub-varieties of the meeting experiment.

**Table 1: Experimental Design**

Province	Direct Election	Meetings
<i>Phase I</i>		
North Sumatra	5	13
East Java	3	7
<i>Phase II</i>		
Southeast Sulawesi	9	11

**Notes:** Each cell displays the number of villages in each treatment.

**Table 2: Randomization Test**

	(1)
Village population (1000 inhabitants)	0.011 (0.048)
Agricultural wage (1000 rupiah)	-0.013 (0.015)
Percent village roads that are asphalt	-0.117 (0.325)
Number of hamlets per village	-0.103** (0.051)
Number of churches and mosques per village	-0.018 (0.063)
Distance to subdistrict capital (km)	0.020 (0.021)
Village head age	0.015 (0.012)
Village head years of education	-0.007 (0.039)
Phase fixed effects	YES
Observations	42
P-value from joint F-test	0.28

**Notes:** Robust standard errors are in parentheses. Column (1) presents marginal effects from a Probit regression. The unit of observation is the village, and the dependent variable is a dummy equal to one if the village received the direct election treatment. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Table 3: Project types**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Project Type Chosen		Gender		Most Preferred Project Type				Land Owner	
	General Proposal	Women's Proposal	Male	Female	Per-Capita Expenditure Q1	Q2	Q3	Q4	No	Yes
Road	54%	35%	61%	38%	33%	47%	57%	63%	59%	34%
Bridge	10%	0%	3%	1%	4%	2%	2%	2%	2%	3%
Drinking water	8%	27%	3%	23%	9%	20%	11%	9%	15%	3%
Irrigation	19%	22%	22%	20%	35%	20%	16%	11%	15%	36%
Sanitation	4%	4%	2%	2%	2%	5%	2%	0%	1%	4%
School Infrastructure	4%	8%	2%	4%	5%	2%	4%	2%	3%	3%
Scholarship	0%	0%	4%	7%	7%	2%	5%	6%	3%	8%
Health	0%	2%	1%	5%	5%	2%	2%	2%	2%	5%
Other	2%	2%	2%	1%	0%	0%	2%	6%	1%	4%
Obs	52	49	137	101	55	55	55	55	164	73

**Notes:** Data in columns (1) and (2) show the project types chosen by the village, for the general and women's project respectively. Number of observations can be greater than the number of villages because several projects fell into multiple types. Columns (3) through (10) give preferred project of respondents to wave I of household survey type broken down by respondents' gender, estimated per capita household expenditure, and whether or not the respondent owns land. Q1 refers to the poorest income quartile and Q4 to the wealthiest.

**Table 4: Impact of Direct Elections on Project Type**

	(1)	(2)	(3)	(4)	(5)	(6)
	Whole Sample			Available Project Types		
	Both Proposals	General Proposal	Women's Proposal	Both Proposals	General Proposal	Women's Proposal
Road/bridge × election	0.601 (0.839)	-0.156 (1.112)	1.264 (1.141)	0.859 (0.835)	-0.173 (1.116)	1.730 (1.098)
Water/sanitation × election	0.353 (0.779)	-0.371 (1.327)	0.796 (1.345)	0.172 (0.759)	-0.380 (1.326)	0.488 (1.342)
Irrigation × election	0.504 (0.978)	0.687 (1.195)	0.157 (1.291)	0.417 (1.124)	0.854 (1.466)	-0.502 (1.680)
Phase × project type fixed effects	YES	YES	YES	YES	YES	YES
Observations	384	192	192	306	159	147
Prob > F	0.85	0.79	0.55	0.46	0.87	0.18

**Notes:** Results from conditional fixed-effects logit regression, where each observation is a project type in a village. Robust standard errors in parentheses adjusted for clustering at the village level. The dependent variable is a dummy equal to 1 if the respective project type was chosen by the village. In columns 1 through 3 all four project types are included as alternatives, whereas in columns 4 through 6 only project types available in the respective village are included. Other (education and health projects) is the omitted category. Phase is a dummy variable equal to 1 if the village's treatment was assigned during Phase I of the study (see Table 1). The conditioning variable in columns 1 and 4 is village × general/women's project and in columns 2, 3, 5, and 6 is village.  
\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Table 5: Impact of direct elections on project rank**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Whole Sample			General Proposal			Women's Proposal		
Rank × election	-0.233 (0.218)	-0.217 (0.207)	8.654* (5.213)	-0.220 (0.235)	-0.215 (0.235)	4.349 (5.813)	-0.099 (0.215)	-0.081 (0.214)	17.142** (7.832)
Elite × rank		-0.079* (0.041)			-0.003 (0.050)			-0.089 (0.066)	
Elite × rank × election		-0.117 (0.108)			-0.108 (0.128)			-0.214* (0.129)	
Male × rank			-0.106* (0.057)			-0.036 (0.120)			-0.154 (0.124)
Male × rank × election			-0.387 (0.276)			-0.357 (0.275)			-0.613 (0.505)
HH p.c. expend. × Rank			-0.003 (0.072)			0.034 (0.175)			0.128 (0.177)
HH p.c. expend. × rank × election			-0.769* (0.465)			-0.396 (0.524)			-1.513** (0.687)
Time to village office (%) × rank			0.171 (0.122)			0.080 (0.236)			0.158 (0.347)
Time to village office (%) × rank × election			-0.043 (0.610)			-0.155 (0.727)			0.780 (0.784)
Hamlet poverty score (%) × rank			0.247 (0.175)			0.018 (0.270)			0.470* (0.267)
Hamlet poverty score (%) × rank × election			0.064 (0.308)			0.383 (0.348)			-0.285 (0.437)
Minority HH × rank			-0.152 (0.206)			0.127 (0.303)			-0.614** (0.307)
Minority hh × rank × election			0.085 (0.328)			-0.088 (0.406)			0.358 (0.488)
Project type fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Rank × phase controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Sample	HH only	HH, Elite	HH only	HH only	HH, Elite	HH only	HH only	HH, Elite	HH only
Observations	965	2190	819	420	961	343	560	1295	491
Prob > F			0.150			0.830			0.000

**Notes:** Results from conditional fixed-effects logit regression, where each observation is a project type for a particular respondent in the household and / or elite survey. Robust standard errors in parentheses, adjusted for clustering at the village level. The dependent variable is a dummy equal to 1 if the respective project type was chosen by the village. In columns 1, 3, 4, 6, 7, and 9, the sample includes household respondents and in columns 2, 5, and 8, it includes both household and elite respondents (village heads, village parliament heads, and hamlet heads). The individual's most preferred project receives a rank of 1. Phase is a dummy variable equal to 1 if the village's treatment was assigned during Phase I. Male is a dummy equal to 1 if the respondent is male, HH p.c. expend. gives estimated household per capita expenditure, time to village office gives time from the respondent's hamlet to the village office and is measured as a percentile among hamlets within the village, poverty score is a ranking of hamlets by poverty and is measured as a percentile, and minority household is a dummy equal to one if the household is a minority in its village, Relatively central hamlets and relatively wealthy hamlets correspond to low percentiles. The p-value is from a Chi<sup>2</sup> test of the joint significance of the election rank interactions. The conditioning variable is respondent × general/women's project in columns 1 through 3, and respondent in columns 4 through 9. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Table 6: Impact of Elections on Project Location**

	(1)	(2)	(3)
	Whole Sample	General Proposal	Women's Proposal
Hamlet affluence (%)	-1.048 (0.654)	-3.104*** (1.147)	1.052 (0.894)
Hamlet affluence(%) × election	-2.357* (1.276)	-2.333 (2.229)	-5.386** (2.210)
Hamlet population share	2.414 (2.077)	8.064** (3.855)	-2.568 (2.972)
Population share × election	-8.478* (5.092)	-16.217* (8.454)	2.484 (7.319)
Time to village office (%)	0.626 (0.665)	1.665 (1.152)	-0.087 (0.977)
Time to vill. office(%) × elect	-3.460** (1.508)	-6.365** (2.627)	-1.346 (1.965)
Minority hamlet	-0.835 (0.917)	-0.450 (1.445)	
Minority hamlet × election	1.042 (1.327)	-1.420 (1.657)	
Hamlet characteristic × phase fixed effects	YES	YES	YES
Observations	318	172	158
Prob > F	0.10	0.13	0.11

**Notes:** Results are from conditional fixed-effects logit regression. Robust standard errors in parentheses, adjusted for clustering at the village level. The hamlet affluence measure is the village head's ranking of hamlets in his village by poverty. Population share gives the hamlet's share of village population. A high percentile corresponds to relatively affluent hamlets and distant hamlets. Phase is a dummy variable equal to 1 if the village's treatment was assigned during Phase II (i.e., the village is located in Southeast Sulawesi). The F-statistic gives the joint significance of the hamlet characteristic\*election interactions. The conditioning variable is village × general/women's project in column 1 and village in columns 2 and 3. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Table 7: Impact of Elections on Perceptions of KDP process**

	(1)	(2)	(3)
	Pooled	General	Women's
<i>Questions</i>			
Was the project chosen in accordance with your wishes?	0.207*** (0.075)	0.311*** (0.088)	0.112 (0.091)
Will the proposal benefit you personally?	0.174** (0.079)	0.312*** (0.092)	0.036 (0.101)
Will you use the project?	0.081** (0.025)	0.246** (0.082)	0.078* (0.032)
Was the chosen proposal fair?	0.052** (0.024)	0.064* (0.026)	0.034 (0.026)
Is the chosen proposal in accordance with the people's aspirations?	0.028** (0.016)		0.016 (0.020)
Are you satisfied with KDP?	0.132* (0.063)		

**Notes:** Each cell is the marginal effect of the direct election dummy from a different probit regression. Robust standard errors in parentheses, adjusted for clustering at the village level. In column 1, the sample includes both the general and women's proposals, whereas in column 2 it is limited to the general proposal and in column 3 to the women's proposal. All dependent variables are 0/1 dummies, with the higher outcome (more satisfied, fairer, etc) receiving a score of 1. All regressions include phase fixed effects and controls for gender, age, log per capita expenditure, number of household members, and occupation. Because every respondent whose village utilized an election answered yes to "Is the chosen proposal in accordance with the people's aspirations" for the general project, it is not valid to run a probit regression in this instance. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Table 8: Impact of elections on KDP voluntary contributions**

	(1)	(2)	(3)
	Pooled	General	Women's
<i>If the project happens, will you contribute...?</i>			
Labor	0.164** (0.062)	0.226*** (0.070)	0.111 (0.074)
Money	-0.043* (0.021)	-0.034 (0.023)	-0.049* (0.027)
Anything	0.178*** (0.055)	0.235*** (0.062)	0.125* (0.070)

**Notes:** Each cell is the marginal effect of the direct election dummy from a different probit regression. Robust standard errors in parentheses, adjusted for clustering at the village level. Dependent variables are 0/1 dummies, with "yes" receiving a score of 1 and "no" a score of 0. All regressions contain phase fixed effects and controls for gender, age, log per capita expenditure, number of household members, and occupation. Column (1) includes observations corresponding to both proposals, column (2) limits the sample to the general proposal, and column (3) to the women's proposal. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Table 9: Impact of elections on knowledge and dialog**

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(1)

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*Questions*

Did the respondent correctly identify the type and location of the selected general proposal?	0.218 (0.107)**
Did the respondent correctly identify the type and location of the selected women's proposal?	0.288 (0.086)***
Did you discuss development issues with anyone?	-0.013 (0.031)
Did you discuss development issues with any household members?	0.015 (0.076)
Did you discuss development issues with anyone in government?	-0.003 (0.078)

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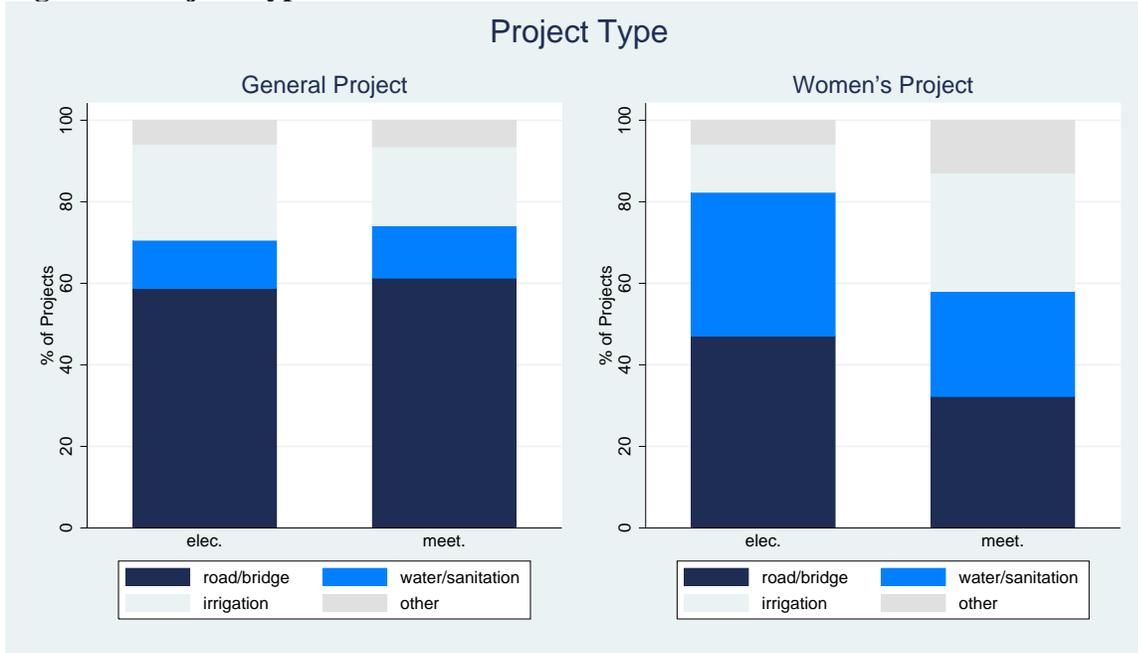
**Notes:** Each cell is the marginal effect of the direct election dummy from a different probit regression. Robust standard errors in parentheses, adjusted for clustering at the village level. Dependent variables are 0/1 dummies, with “yes” receiving a score of 1 and “no” a score of 0. All regressions include phase fixed effects and controls for gender, age, log per capita expenditure, number of household members, and occupation, whereas those in column (2) do not. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Figure 1: Sample ballot**

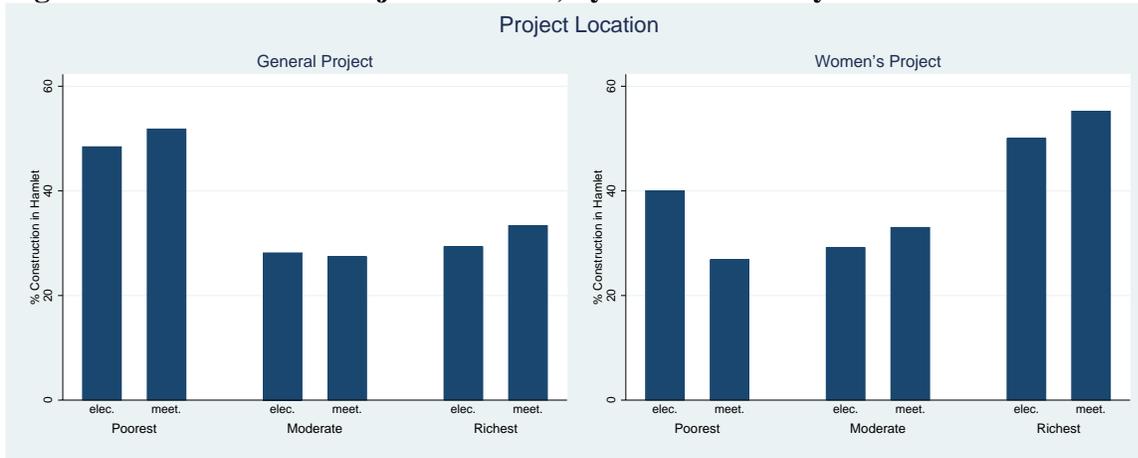


**Notes:** This is an actual sample ballot for the general project for Sibarani village, North Sumatra. Sample ballots, such as this one, were posted around the village at least 3 days before the election so that villagers could familiarize themselves with voting procedures. In this example, option 1 is for a retaining wall along a road in hamlet 1, option 2 is for an irrigation canal in hamlet 2, and option 3 is for an irrigation canal in hamlet 3.

**Figure 2: Project Type Selected**

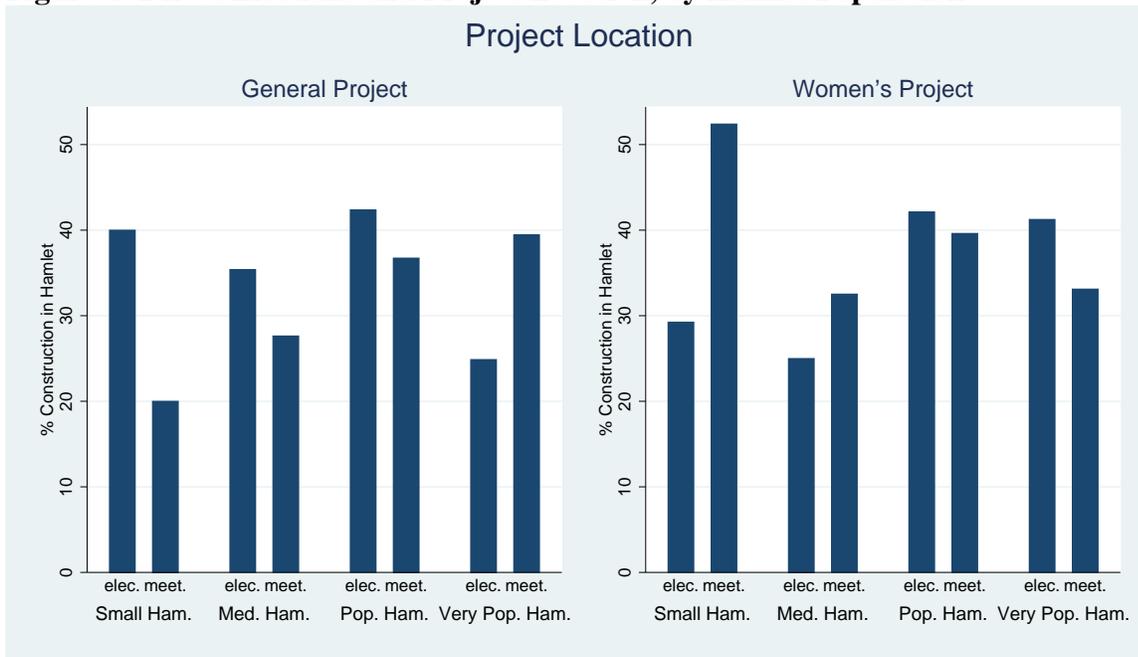


**Figure 3: Elections and Project Location, by Hamlet Poverty Rank**

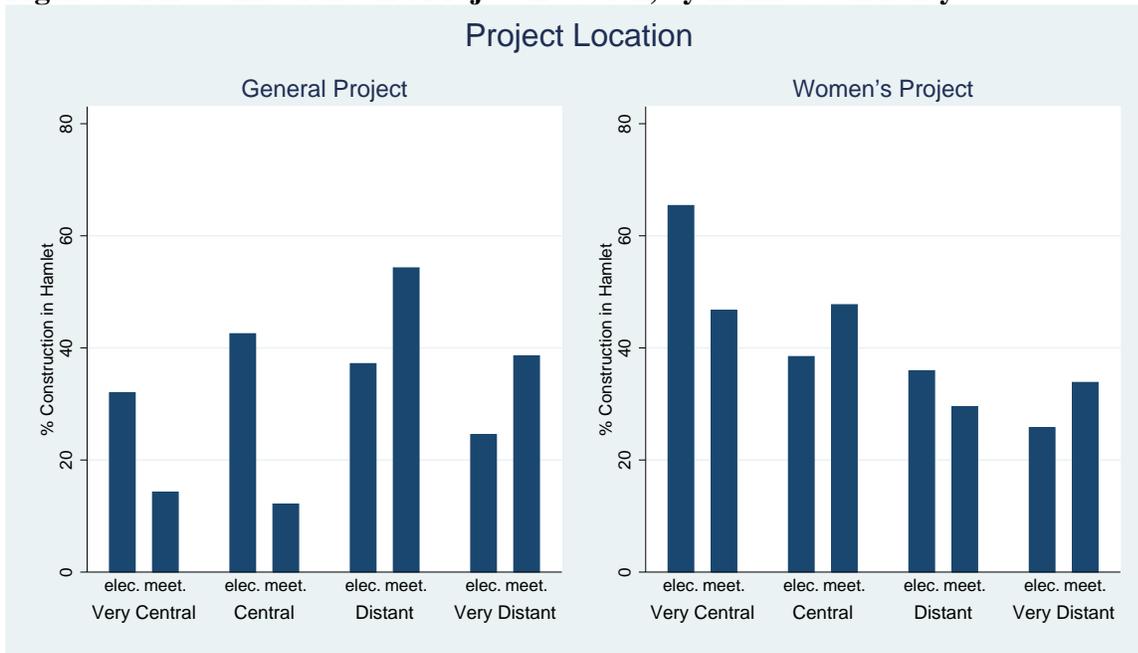


**Notes:** Poorest refers to the poorest hamlet in the village, richest to the wealthiest hamlet, and moderate to the hamlets in between, where hamlet affluence is ranked subjectively by the village head.

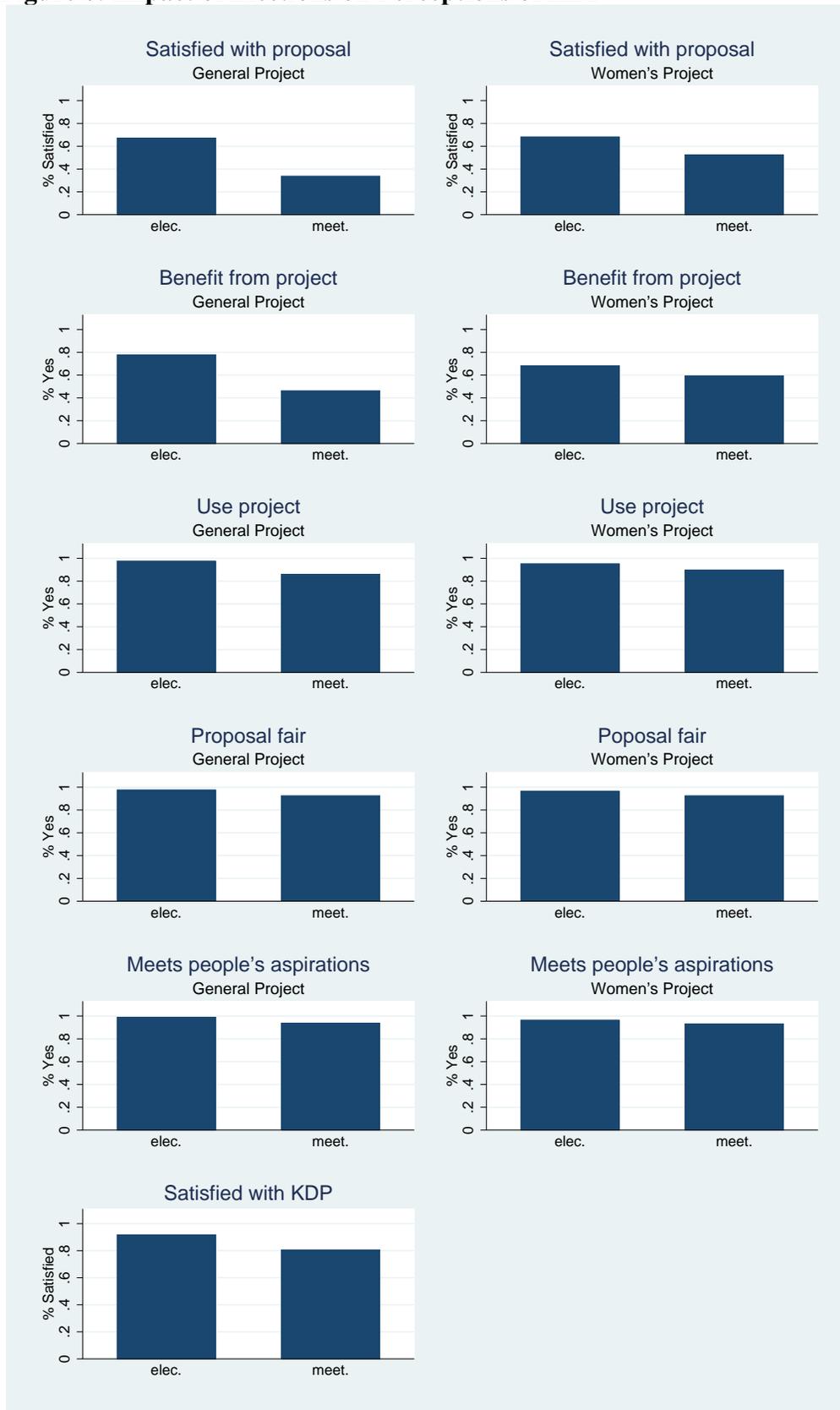
**Figure 4: Direct Elections and Project Location, by Hamlet Population**



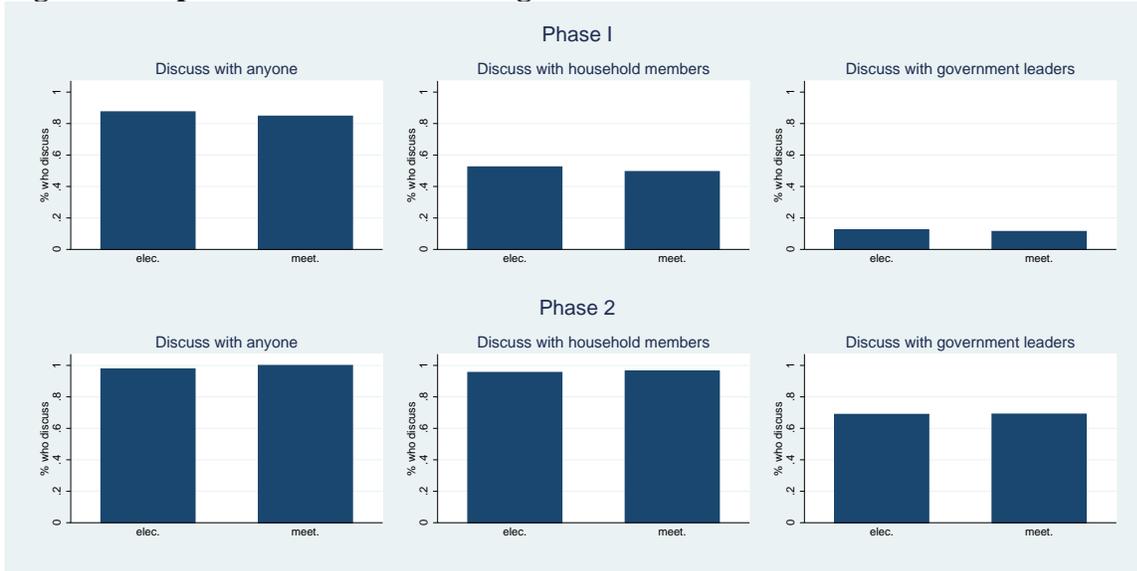
**Figure 5: Direct Elections and Project Location, by Hamlet Centrality**



**Figure 6: Impact of Elections on Perceptions of KDP**



**Figure 7: Impact of Elections on Village Discussions**



**Figure 8: Impact of Elections on Knowledge about KDP**

